

Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS)

Environmental Mitigation

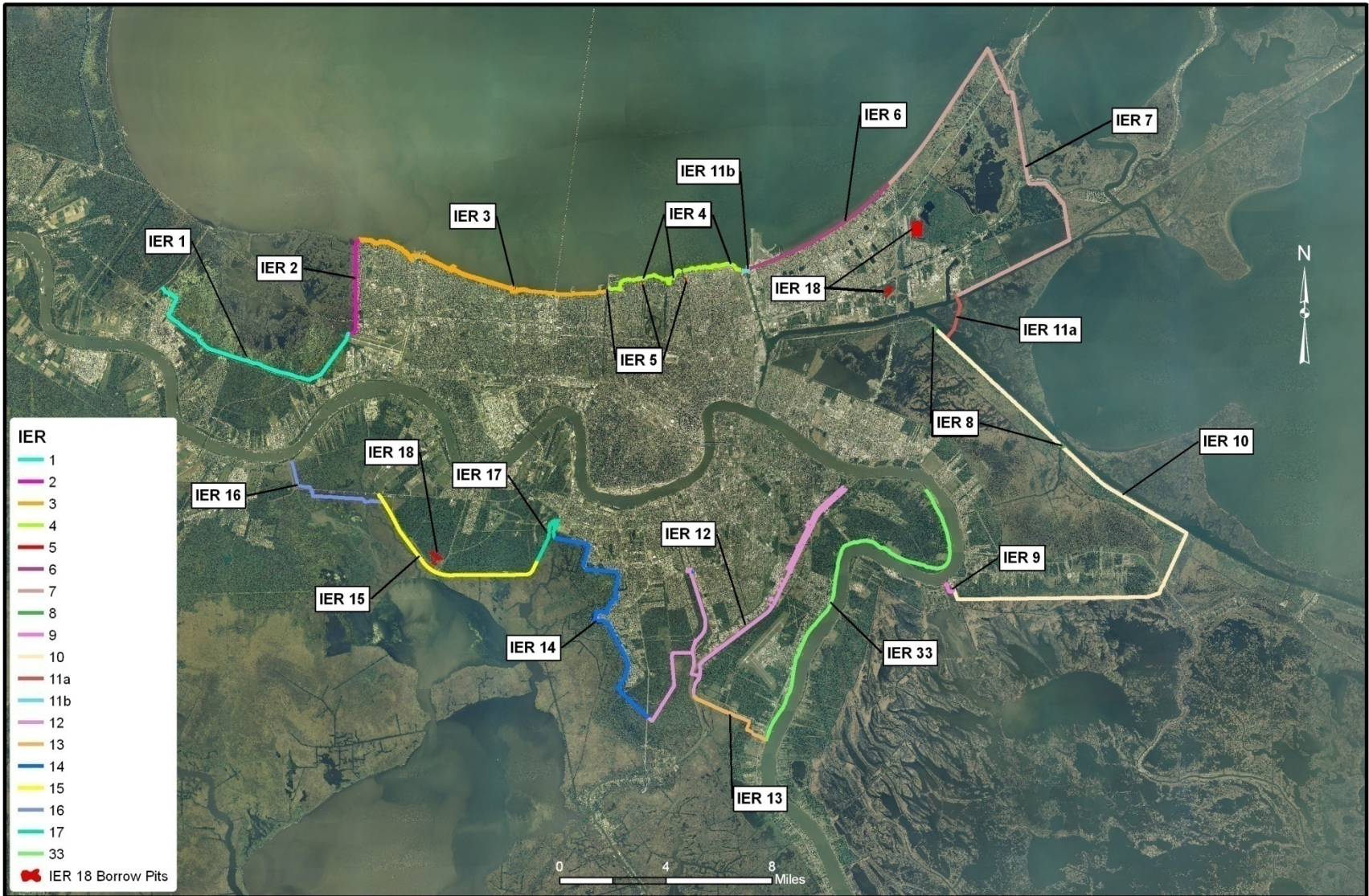
Nov 13, 2013



US Army Corps of Engineers
BUILDING STRONG®



Individual Environmental Report Projects



Current working LPV & WBV HSDRRS Impacts

Habitat Type	LPV ¹ (HSDRRS) (acres)	WBV ² (HSDRRS) (acres)	Total Impacts (acres)
Bottomland Hardwood Wet	278	235	511
Bottomland Hardwood Dry	268	479	747
Swamp	198	254	454
Fresh Marsh	39	148	187
Intermediate Marsh	148	0	148
Brackish Marsh	251	0	251
Total	1,182	1,116	2,298

¹ Impacts include outstanding mitigation for TFG impacts

² Impacts include outstanding mitigation in EA 437 and 439

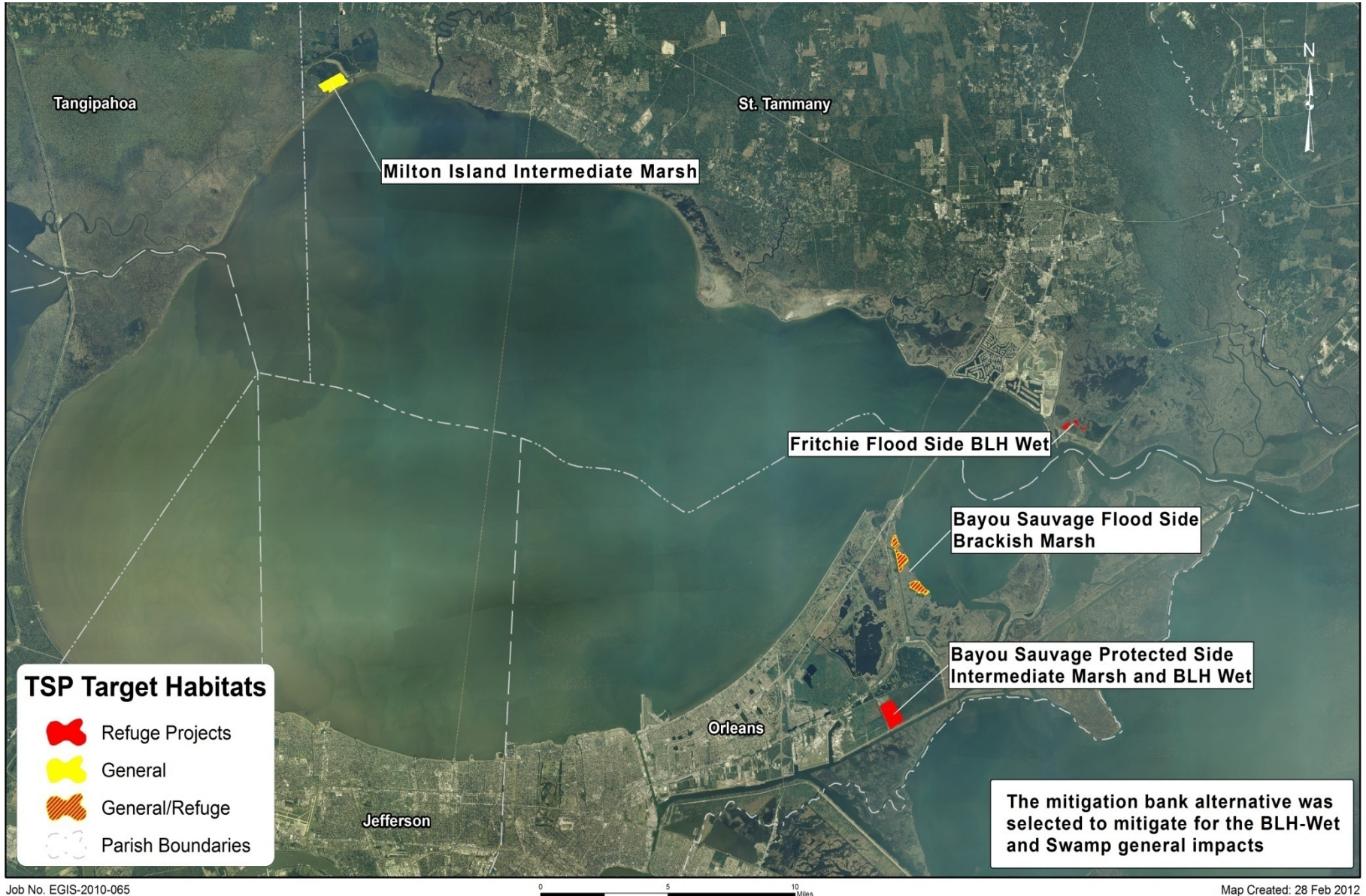


NEPA Compliance and Implementation

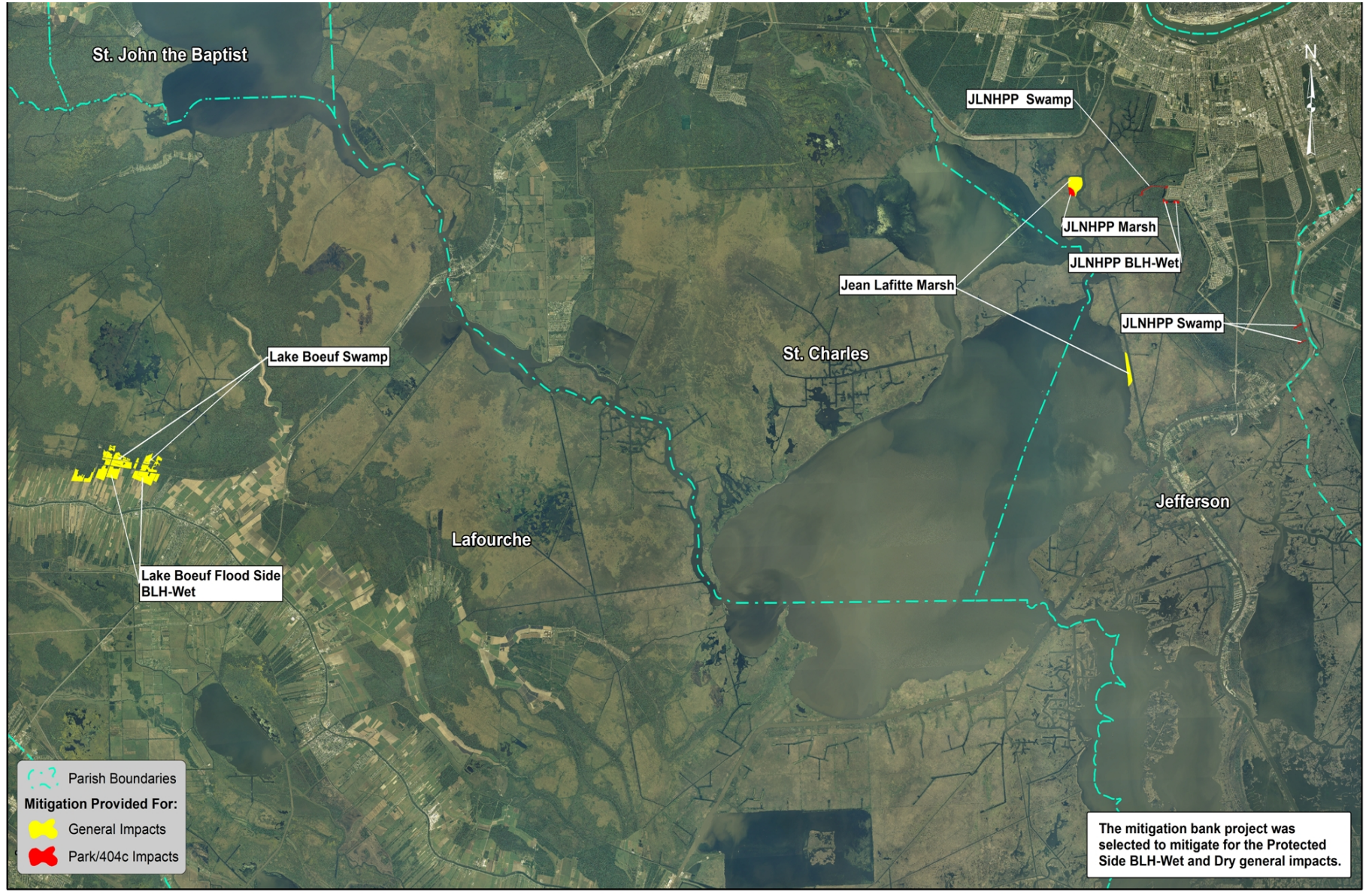
- **Programmatic Individual Environmental Report (PIER)**
- **Implement Mitigation Bank TSP (contingent upon cost / availability)**
- **Tiered Individual Environmental Reports (TIERs)**
- **Implement TSMP covered in each TIER following TIER approval**



LPV Recommended Mitigation Plan Alternative



WBV Tentatively Selected Mitigation Plan Alternative



Job No. EGIS-2010-065

LPV Mitigation Tentative Timeline (Pre-construction)

Initiated Study	May 2010	(Completed)
5 Scoping Meetings	May 2010	(Completed)
Initial Screening of Measures	Sep 2010	(Completed)
Project Status Public Meetings	Dec 2010	(Completed)
Refine Measures	Apr 2011	(Completed)
Assemble Alternative Plans	Aug 2011	(Completed)
Identify Proposed Action	Nov 2011	(Completed)
Finalization of Individual Environmental Report	Nov 2013	
Division Approval of Mitigation Plan	Feb 2013	
Release Tiered Individual Environmental Report(s)	<i>Pending Finalization of Design</i>	



WBV Mitigation Tentative Timeline (Pre-construction)

Initiated Study	May 2010	(Completed)
5 Scoping Meetings	May 2010	(Completed)
Initial Screening of Measures	Sep 2010	(Completed)
Project Status Public Meetings	Dec 2010	(Completed)
Refine Measures	Apr 2011	(Completed)
Assemble Alternative Plans	Aug 2011	(Completed)
Identify Proposed Action	Nov 2011	(Completed)
Public Meeting	Jul 2012	(Completed)
Release Programmatic Individual Environmental Report	March 2014	
Division Approval of Mitigation Plan	Sep 2014	
Release Tiered Individual Environmental Report(s)	<i>Pending Finalization of Design</i>	



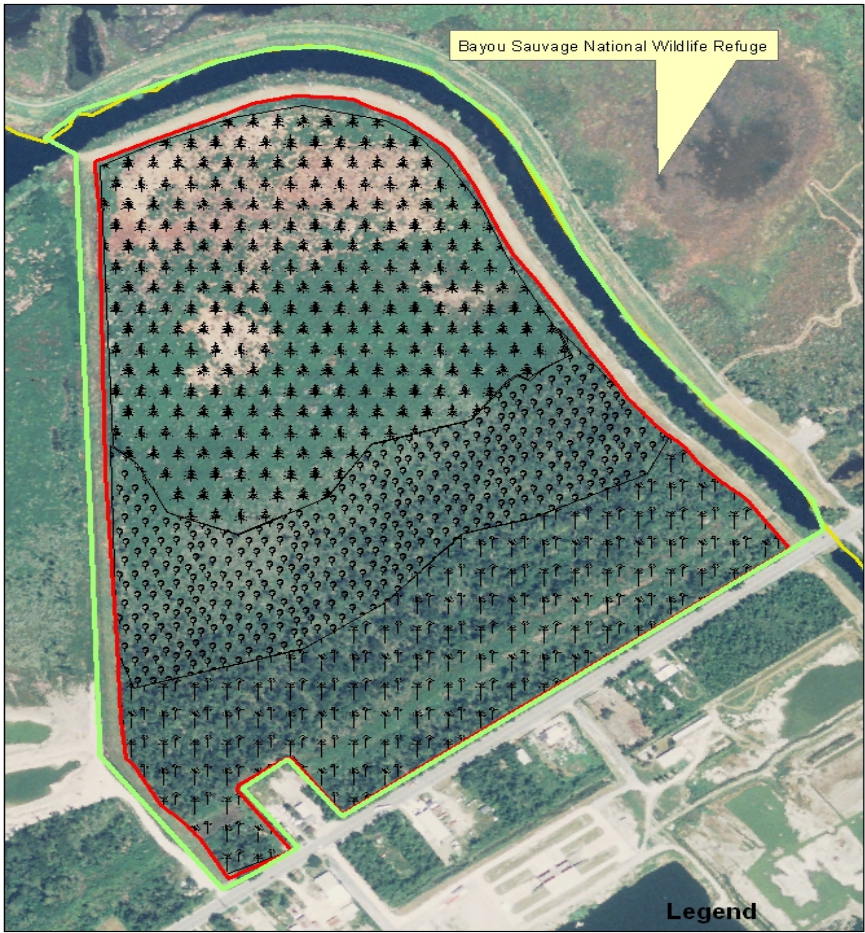
Other CEMVN Mitigation Projects

- **Task Force Guardian:** Mitigation for New Orleans East and Walker Road borrow pit impacts, 57.5 acres of BLH wet - Bayou Sauvage Mitigation Project
- **Task Force Unwatering:** Mitigation for impacts incurred for repairing the Braithwaite/Scarsdale breaches, 21.3 acres of marsh - Big Mar Mitigation Project
- **LPV Original Construction:** Mitigation for impacts incurred during the construction of the LPV HPS, 1,300 acres of marsh - Manchac Wildlife Management Area Mitigation
- **WBV Original Construction:** Mitigation for impacts incurred during the construction of the LPV HPS, 724 acres of BLH and swamp – WBV Previously Authorized Mitigation
- **Terrebonne NFL:** Mitigation for impacts incurred during repair and improvement of existing non-Federal levees impacted by recent hurricanes, 51.6 acres of marsh and 12.1 acres of BLH – Terrebonne NFL Mitigation Project



BAYOU SAUVAGE MITIGATION PROJECT

Proposed Bayou Sauvage Mitigation Area and Sub-area



0 260 520 1,040 1,560 2,080 Feet

Aerial Image: 2007 (sid/DAW)



Status:

Engineering and Design:

Project is under construction

Real Estate:

Complete

Environmental Compliance:

NEPA compliance achieved under EA 433.

Project features:

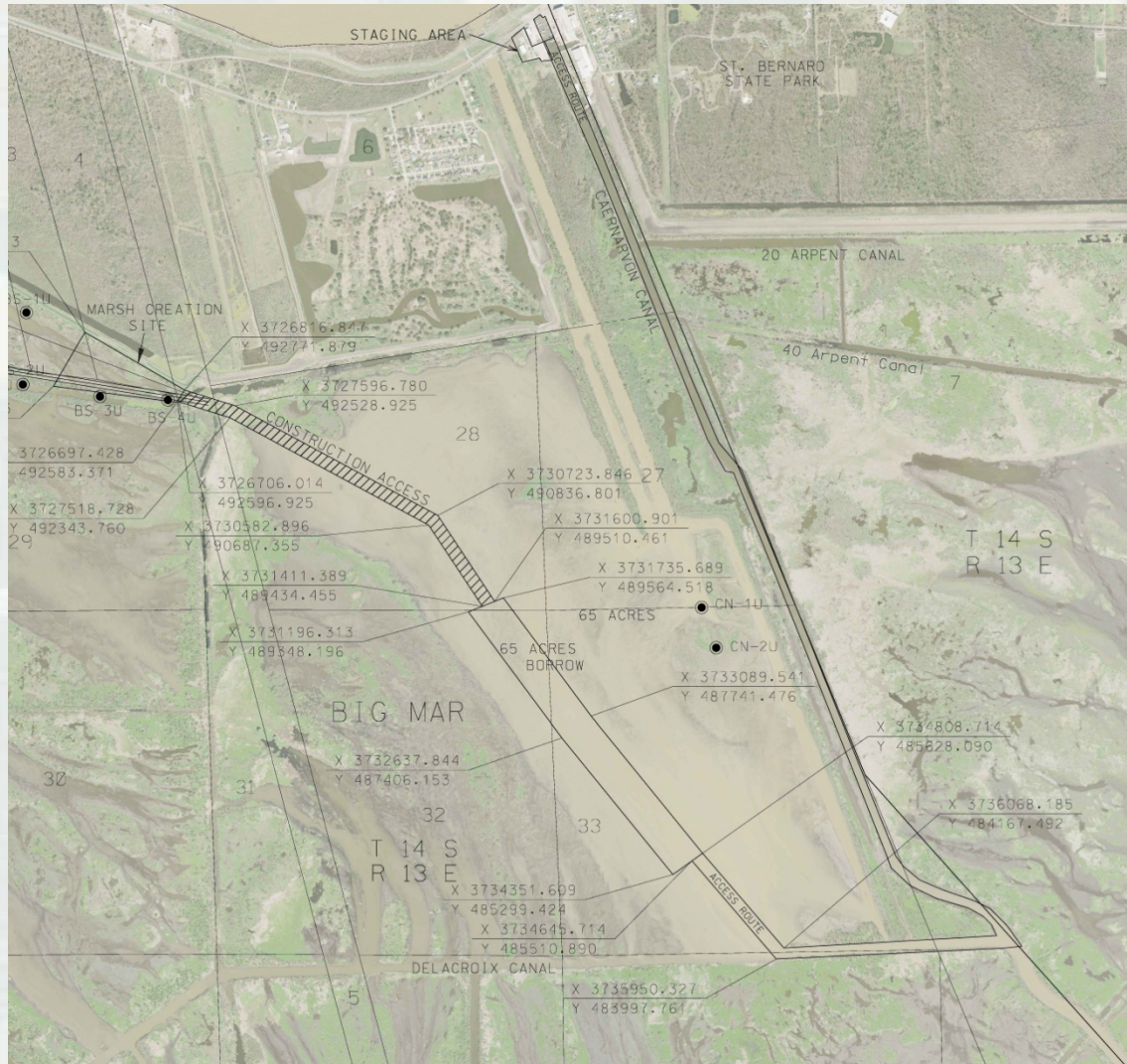
Project area broken into 3 sub-basins for appropriate reforestation and invasive species control as per existing elevations.

Water control structure at the northwestern corner of the project area to control water levels.

EM: Elizabeth Behrens



BIG MAR MITIGATION PROJECT



Status:

Engineering and Design:

Design complete

Environmental Compliance:

NEPA compliance
achieved under SEA 433

Real Estate:

Acquisition Phase

Project features:

Project involves obtaining dredged material from the open water in Big Mar and placing it in a 24 acre site to the northwest of Big Mar for marsh creation.

EM: Tammy Gilmore



MANCHAC WMA MITIGATION



Status:

Engineering and Design:

Project is under construction

Environmental Compliance:

NEPA compliance achieved under EA 500

Real Estate:

Complete

Project features:

Retention dike on Lake Pontchartrain shoreline.

Existing non-continuous breakwaters linked to provide continuous breakwaters (2 cells).

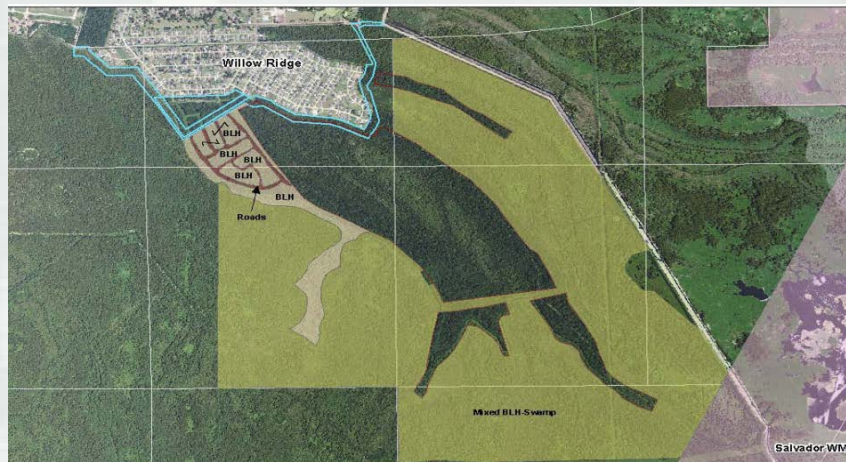
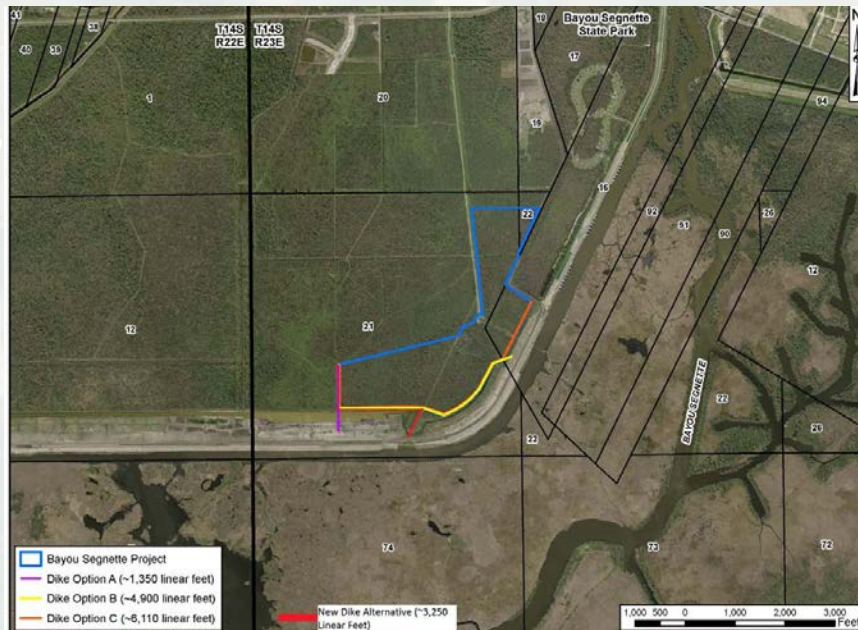
Marsh Creation from lake borrow sources.

Fish dips will be constructed if they haven't naturally occurred after marsh establishment complete.

EM: Nathan Dayan



WBV PREVIOUSLY AUTHORIZED MITIGATION



Status:

Engineering and Design:

P&S completed

Environmental Compliance:

NEPA compliance achieved under SEA 498

Real Estate:

Acquisition Phase

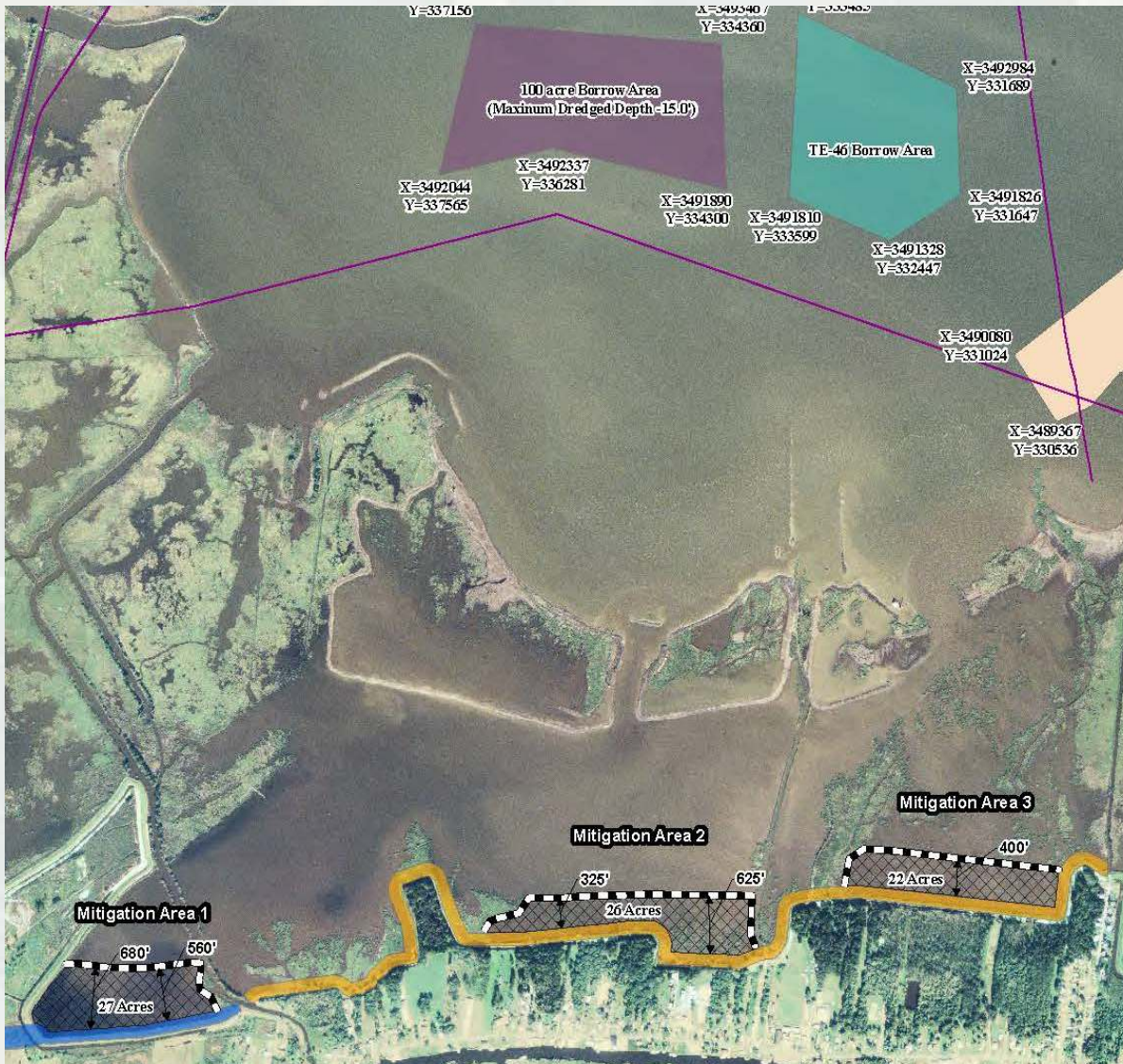
Project features:

- Water Retention Dike
- Eradication of Invasive Species
- BLH Planting
- Feral Pig Exclusion Fencing

EM: Nathan Dayan



TERREBONNE NFL MITIGATION



Status:

Engineering and Design:

Project is under construction

Environmental Compliance:

NEPA compliance achieved under EA 450

Real Estate:

Complete

Project features:

Project involves obtaining dredged material from Lake Boudreaux and placing it in 3 sites for a total of 74 acres of marsh creation.

EM: Elizabeth Behrens



Back Up Slides



Hurricane & Storm Damage Risk Reduction System Mitigation Policies

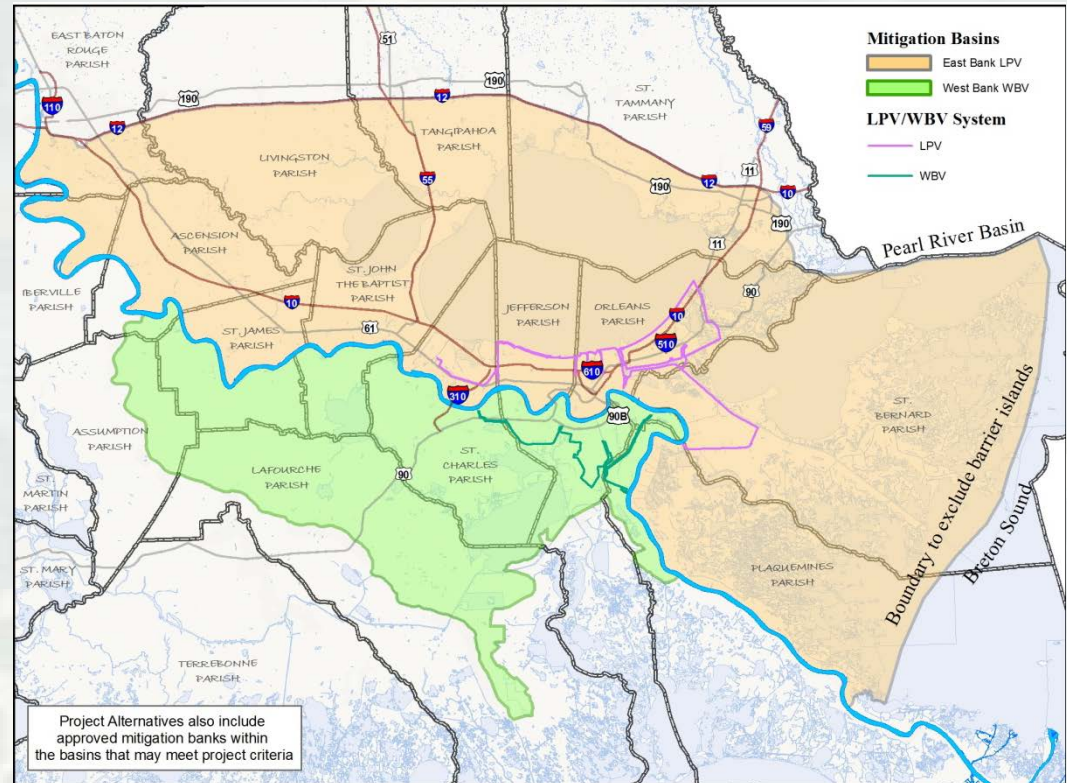
In accordance with Section 2036 of WRDA 2007, mitigation would occur:

- Within the same watershed / hydrologic basin (Barataria or Lake Pontchartrain)
- Mitigate in-kind - within same habitat type
 - Bottomland hardwood
 - Swamp
 - Fresh / Intermediate marsh
 - Brackish marsh

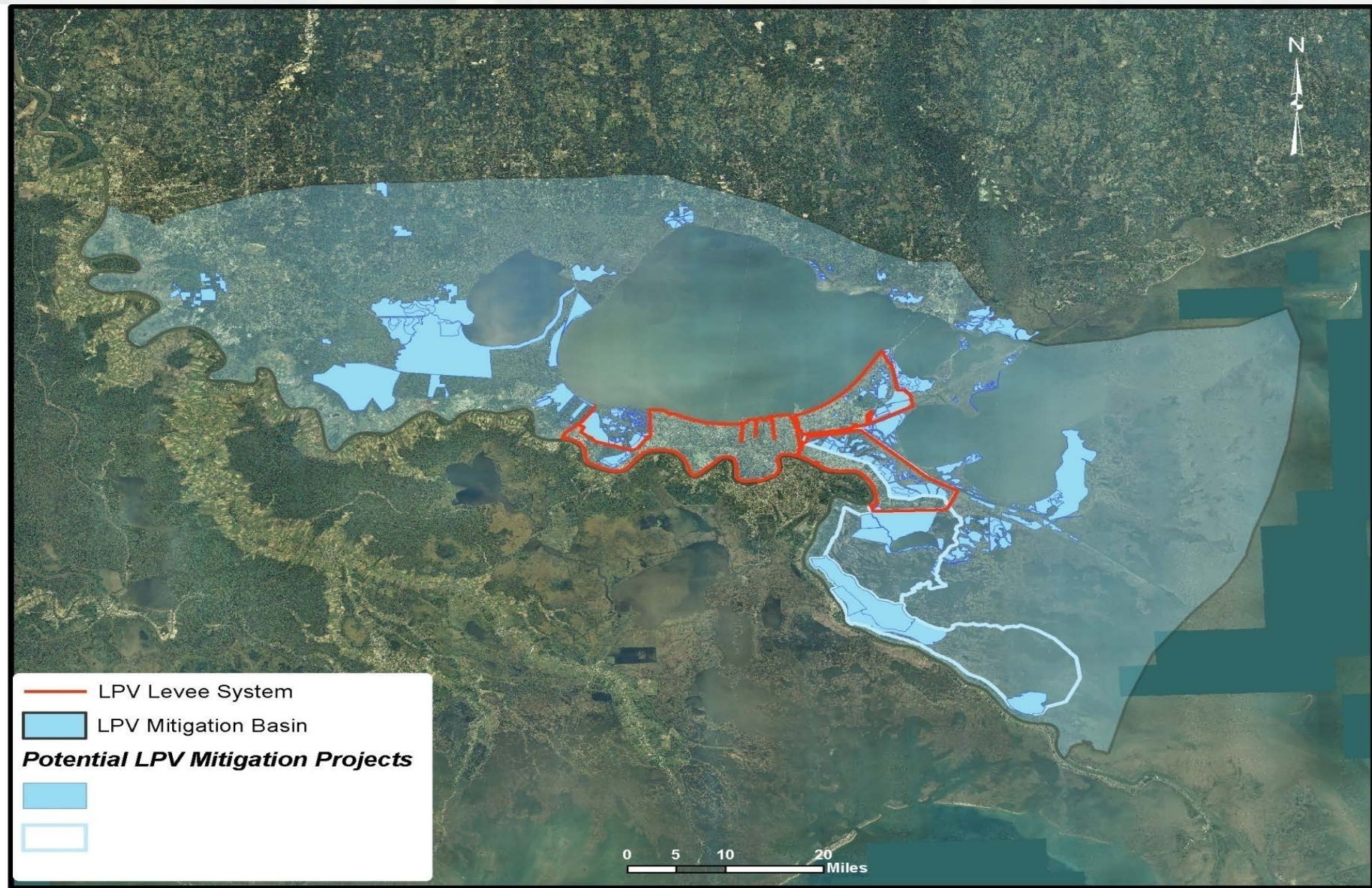
Options under consideration

(not organized in order of priority):

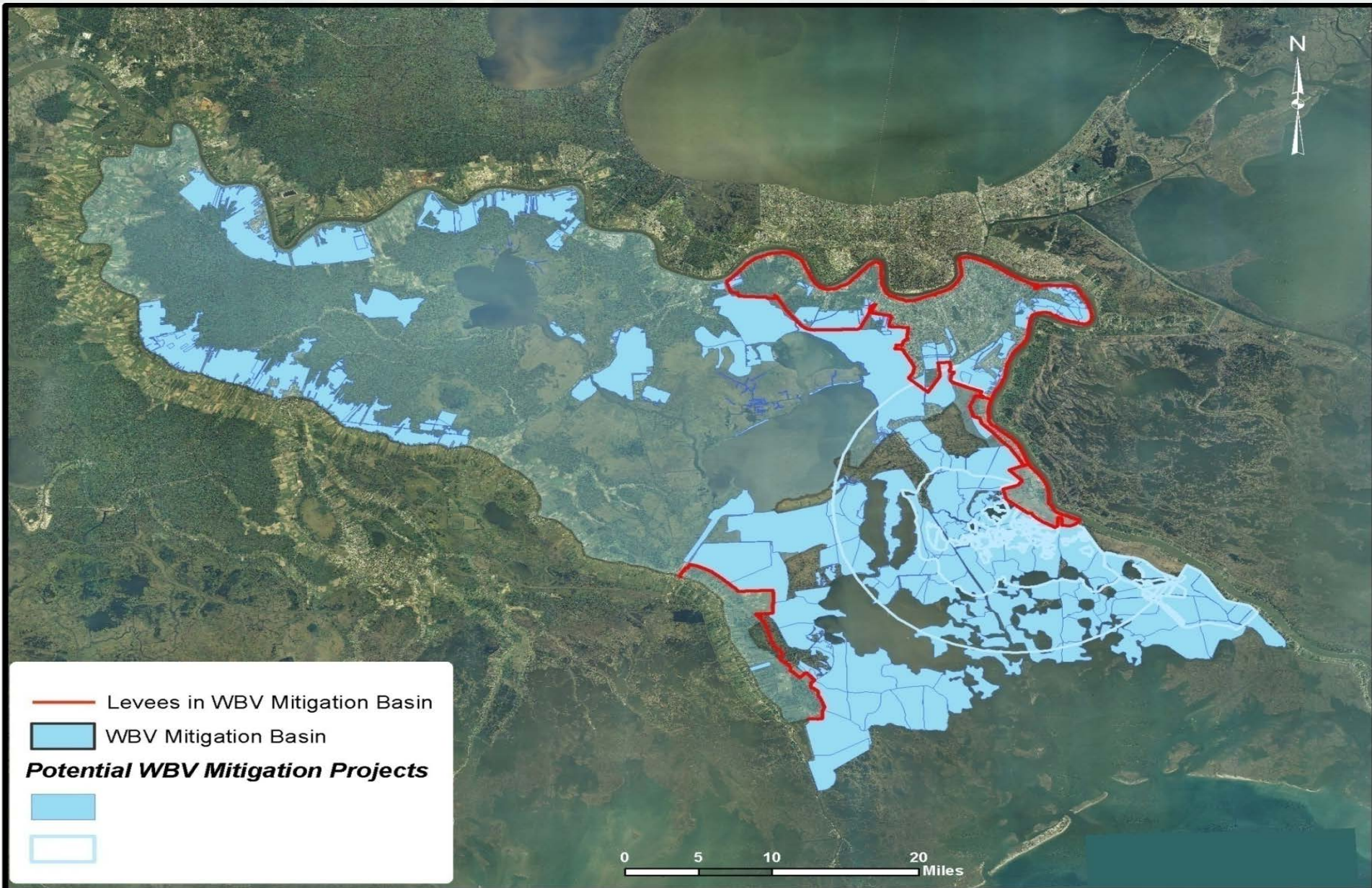
- Corps constructed projects on public lands
- Corps constructed projects on private lands
- Mitigation Banks



Lake Pontchartrain & Vicinity Projects Considered



West Bank & Vicinity Projects Considered

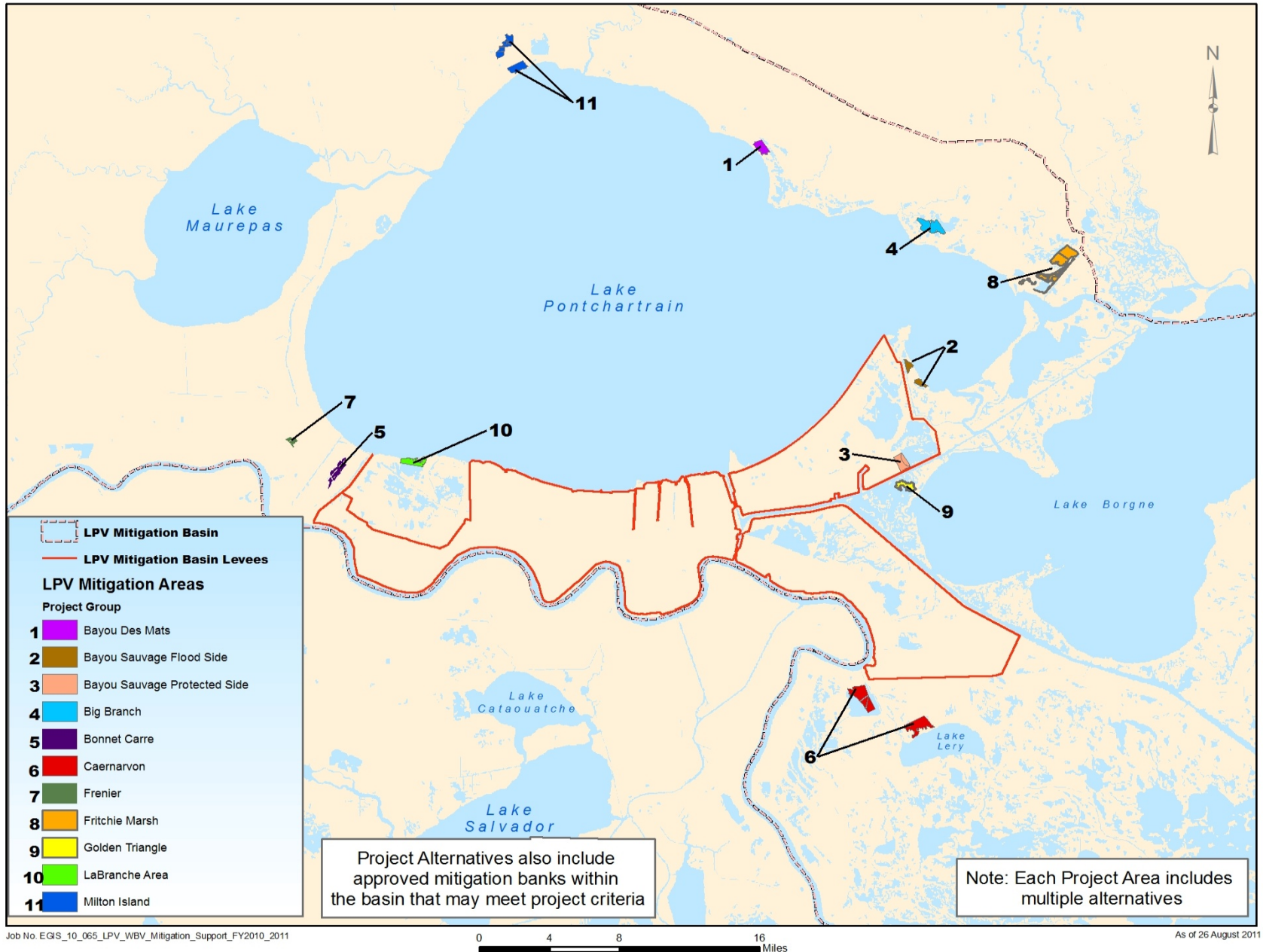


Initial Screening Criteria

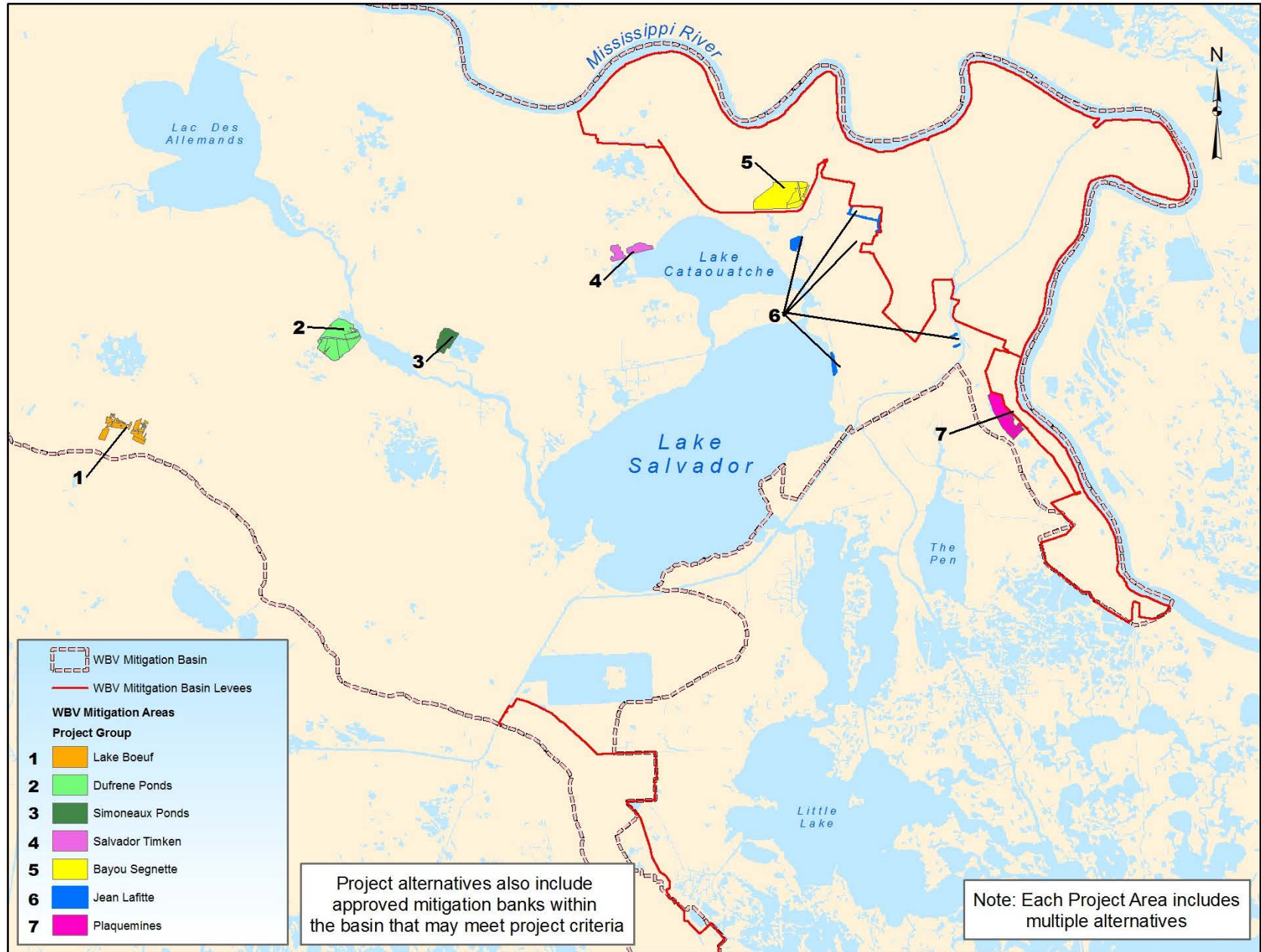
- Compliance with laws, regulations and policies
- Avoid Hazardous Toxic and Radioactive Waste
- Within the Mitigation Basin where the impacts occurred
- Must address 100% of mitigation need in kind by habitat type
- Technically viable (e.g. correct salinity)
- No conflicts with other projects constructed or planned for construction
- Not dependent upon another project
- Can be adjusted to meet mitigation requirement only
- Addresses multiple mitigation requirements in one project area
- Addresses opportunities to expand existing resource-managed areas



LPV Initial Screening Results



WBV Initial Screening Results



Project alternatives also include approved mitigation banks within the basin that may meet project criteria

Note: Each Project Area includes multiple alternatives

Mitigation Plan Selection Criteria

- **Risk & Reliability:**
e.g. Sustainability, Implementability, Uncertainty, Adaptability
- **Environmental:**
Environmental Impacts
- **Watershed & Ecological Site Considerations:**
e.g. Fragmentation, connectivity, habitat linkage, location in watershed, consistency with watershed plans
- **Time:**
Duration to contract award & time to physical construction complete/initial planting
- **Cost Effectiveness:**
Average annual cost per average annual habitat unit
- **Other Cost Considerations:**
Cost included Construction, Engineering & Design, Construction Supervision and Administration, Real Estate, and Operation and Maintenance

